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Personnel and Training

Study and Analysis

Program



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FOREWORD

ARI's FY94 Research-Based Personnel and Training Study and Analysis Program has been developed in response to increasing requests for timely, empirical behavioral science information and data upon which to base critical personnel and training decisions affecting the lives and careers of all Army enlisted, officer and civilian personnel.

The program described in Sections A and B addresses many of the most critical human resource issues facing the Army today. Personnel issues include: leader development, improved selection and classification measures and methods, the potential impact of economic/demographic and policy variables on enlistment and retention, and recruit marketing. Training issues include: component strategies for the Army's Combined Arms Training Strategy (CATS) and the cost-effective use of training resources.

Policy and procedures for the ARI Research-Based Study and Analysis Program are described in Section C.

OVERVIEW

Objective:

The objective of the Research-based Personnel and Training Study and Analysis program of the U. S. Army Research Institute (ARI) for the Behavioral and Social Sciences is to conduct studies and analyses, using behavioral and social sciences data and information, that provide a sound, empirical basis for making recommendations to support increasingly critical decisions concerning personnel and training policies and doctrine.

Methodology:

To achieve this objective, ARI uses behavioral and social science expertise, knowledge and databases to conduct short-term studies and analyses that will directly aid decision/policy/doctrine makers in making more informed, more timely decisions on issues concerning the Army's most costly resource, personnel.

Many of the study and analysis tools and techniques used in this program have been developed as part of the ARI Science and Technology program; others have been adapted from civilian survey tools and techniques.

This program uses existing data (e.g., from Combat Training Centers) where possible. New data are generated where required. Some databases initially developed for research purposes have transitioned to this applied program. For surveys and analyses that are carried out on a recurring basis, databases are augmented and refined as required.

In some cases, study and analysis results help identify critical behavioral science questions that need to be answered in ARI's exploratory development and/or advanced development programs.

Program Characteristics

- o Responsive to rapidly changing Army manpower, personnel and training requirements
- o Uses behavioral science techniques to answer critical soldier-related issues
- o Short term (0-2 year) efforts
- o Low risk; potentially high impact
- o Prioritized for the budget fiscal year
- o High priority requests accepted during fiscal year

THE FY94 PROGRAM

In FY94 the ARI Research-based Personnel and Training Study and Analysis Program starts its third year. The FY94 program includes studies and analyses continuing from FY93, as well as 11 new studies and analyses accepted for the FY94 core program.

The program is organized by "task": one or more studies/analyses addressing a critical personnel or training issue. An individual study or analysis represents a "work unit" under a task.

Five study and analysis tasks will be executed by ARI's Manpower and Personnel Research Division (MPRD) and are described in Section A. ARI's Training Systems Research Division (TSRD) will execute two tasks which are described in Section B. In the case of FY93 work units that end in FY93 or carry over into FY94, descriptions briefly describe work unit status as of the end of FY93.

FY94 program tasks and work units are summarized on the following pages. This summary provides a overview of the critical issues that ARI is being asked to address, showing its scope and breadth. For each task the overall <u>Objective</u> is shown. Under each task, the <u>Issues</u> being addressed are presented. (Funding for FY93, FY94 and FY95 is summarized in Section D.)

OVERVIEW OF ARI FY 1994 STUDY AND ANALYSIS PROGRAM

Manpower and Personnel Research Division

LEADERSHIP AND ORGANIZATIONAL ANALYSIS (1131):

Objective: To provide information for decisions about leader development programs to meet current and future leadership

Effectiveness of Leadership Development Practices: How effective are current leadership assessment and development programs? (C93)1 Analysis of Alternative Command Post Structures: What are the existing variations in command post structures, and what is the impact of these variations? (N94)

Critical Leader Development Factors in Support of the Art of Battle Command: What are the critical factors of leader development in support of the art of battle command? (N94)

integrated basic entry training? Are there different performance outcomes for male and female trainces in gender-Gender-Integration of Basic Eatry Training: What are trainee's and training cadres' attitudes about genderintegrated and gender-pure squads? (N93)

commitment and career intentions of junior officers as they progress toward key career decision points? (N94) Longitudinal Research of Officer Careers (LROC): What are the major factors that influence the career

Army Career Transition Survey (ACTS): What are the major factors that influence soldiers' decisions to leave Army service and how satisfied were they with their service? (N94)

^{1;} C93; Completed in FY93 Con; Continuing into FY94 N93; New in FY93 N94; New in FY94

JOB SPECIFIC SELECTION AND CLASSIFICATION (1231):

Objective: To conduct studies which will provide recommendations leading to improvement of current procedures for enlisted selection and classification.

Improved Classification with Existing Tests: Should there be a change to the current Mechanical Maintenance ASVAB Aptitude Area composite? (C93)

Improved NCO Promotion Procedures: What are the best measures to use in insuring that soldiers who are promoted to NCO are those who perform most effectively? (N94)

Self Development Test (SDT) Fairness Analysis: Is the SDT fair for all protected subgroups? (N94)

IMPLEMENTATION OF NEW PREDICTOR TESTS (1232):

Objective: To resolve issues concerning appropriate use of new temperament, psychomotor and spatial tests in the existing enlisted selection and classification system. 4

Recommendations for Improved Testing: What new predictor tests will provide the greatest benefit to the Army if added to the current selection and classification system? (C93)

Fairness Analysis: What impact will the new predictor tests have on different racial and gender subgroups? (C93)

REENLISTMENT AND PROMOTION ISSUES (1233):

Objective: To address issues associated with the improvement of reenlistment and promotion procedures.

Retaining High Performing Soldiers While Building Down: What personnel policies will ensure that high quality soldiers are retained during the projected "build down" of Army forces? (C93)

PERSONNEL POLICY ANALYSIS (1331):

Objective: To determine the impact of economic/demographic and policy variables on enlistment, reenlistment, attrition, and separation; forecast future enlistments and reenlistments; determine efficient allocation of military pay and benefit resources; and determine costs of alternative force mixes.

Impact of Economic and Demographic Variables: How to recruit, manage and retain sufficient numbers of high quality soldiers at least cost. (C93) Analysis of Enlistment, Reenlistment, Promotion and Separation Policies: How to manage the downsizing in an efficient and equitable manner. (N94)

Utilization of FAARRS-SHARE Methodology: How to efficiently allocate recruiting resources to achieve accessioning targets. (C93) Development of a Prototype Officer Personnel Inventory, Cost and Compensation (OPICC) Policy Analysis Model: In the present downsizing environment, there is an ongoing need for improved analysis capability in personnel and compensation policy and officer management. (N93) Annual Updates of ARI Databases: Manpower databases configured to support research-based studies and analyses need to be updated on a routine basis. (Con)

Viability and effectiveness of the existing promotion, education and professional development systems in the smaller Impact of a Smaller, CONUS-Based Army Upon Promotion, Education and Professional Development Systems: Army of the 1990's. (N94)

Development of a PC-Base Enlisted Personnel Evaluation System (EPAS): Implementation of improved classification techniques through application of optimization techniques to person-job matching. (N93)

MARKETING AND ADVERTISING (1332):

Objective: Resolution of active and reserve recruit marketing issues for sustaining a quality forces.

Marketing and Recruiting Strategies: How to best reach the recruiting market to enlist sufficient numbers of high quality soldiers (Active and Reserve). (C93)

Army Alumni Survey: Determine how to best transition soldiers to civilian life. (Con)

Survey of Civilian Nurses: Analysis of reasons behind serious shortfall in the recruiting of nurses for the active and reserve components. (Continuing from FY93). (Con)

Training Systems Research Division

ARCHIVE: ANALYSES OF COMBAT TRAINING CENTER (CTC) PERFORMANCE (2131):

Objective: To provide answers to critical issues for the Combined Arms Training Strategy (CATS) and unit readiness assessment.

(BOS) Across the Combat Training Centers (CTC): What are current performance strengths and weaknesses in the Profiles of Unit Performance Strengths and Weaknesses in the Maneuver Battlefields Battlefield Operating System maneuver BOS demonstrated at the CTCs? (C93) Combat Training Center (CTC) Data Requirements and Quality: What are the data available at the CTCs and how should quality control be provided for them? (C93) Tactical Commander Behavior and Unit Performance at the Combat Training Centers: What is the survivability of commanders during the execution of battles and how is the practice of command succession implemented following commander loss? (C93)

Leadership (DOTML) lessons learned can be obtained from the oral histories of experienced observer/controllers at Lessons Learned by Observer/Controllers at CTCs: What Doctrine, Training, Organizational, Materiel, and the National Training Center. (Con)

Strength and Weakness in Indirect Fire, Air Defense and Mobility/Countermobility Battlefield Operating Systems (BOS) Across the CTCs: What are current major unit performance strengths and weaknesses in these BOSs as demonstrated at the CTCs? (Con)

Combat Service Support (CSS) Training at the CTCs: Is CSS training conducted with adequate fidelity at the CTCs? (N94)

devices used, and how effective do the users report the devices to be in support of their training requirements as Training Aids, Devices, Simulators, and Simulations (TADSS) Study: How often are currently fielded training reflected in training performance at the CTCs? (N94)

ANALYSES OF TRAINING CONDUCT AND TRAINING TECHNOLOGY UTILIZATION (222S):

Objective: Analyses leading to recommendations concerning the effective and proper use of training resources.

Assessment of TRADOC School Staff Time for Instructional Delivery and Support Activities in TRADOC Schools: Do the TRADOC schools have sufficient staff resources to effectively conduct instruction, update current training programs, and design, develop and validate new training programs/products? (N94)

Section A

Manpower and Personnel Research Division FY94 Research-Based Study and Analysis Program

TASK 1131: LEADERSHIP AND ORGANIZATIONAL ANALYSIS

OBJECTIVE: To provide information for decisions about leader development programs for current and future leadership requirements.

FUNDING: FY93 FY94 FY95 \$100K \$551K \$353K

Work Unit

(1131H02): Effectiveness of Leadership Development Practices

Sponsor: TRADOC (CGSC/CAL) BG Steele

Issue: How effective are current leadership assessment and development

programs?

Approach: Collect data on implementation of leadership development programs by

review of current practices, analysis of trainees' performance records, and

interviews of program participants (trainers and trainees). Evaluate

program consistency and adherence to doctrinal guidelines and established

principles for leader development.

Utilization: Empirical basis for improving and defending leadership development

programs.

Est. Cost: FY93 FY94 FY95 TOTAL

\$20K ---- \$20K

Start Date: 1st Quarter FY92 End Date: 1st Quarter FY93

Status: Interviews on unit leader development practices completed during 4th

Quarter FY92. Data analysis and final Study Report completed during 1st

quarter FY93. Study Report 93-01 published March 1993.

(1131H03): Analysis of Alternative Command Post Structures

Sponsor: TRADOC (CAC-CD) BG Anderson

Issue: What are the existing variations in command post structures, and what is

the impact of these variations?

Approach: Available ARI ACCES (Army Command and Control Evaluation System)

and BCTP information will be reviewed. These data will be augmented with interviews of division commanders and key staff to identify variations in commanders' perceptions of how command posts should be structured to

provide the support they require. Based on these interviews, key components of variation and expected impact on command post

effectiveness will be identified.

Utilization: Will support CAC-CD efforts to redesign division and corps command

posts.

Est. Cost: FY93 FY94 FY95 TOTAL

---- \$36K ---- \$36K

State Date: 1st Ouarter FY94 End Date: 3rd Ouarter FY94

Status: New Start

(1131H04): Critical Leader Development Factors in Support of the Art of Battle

Command

(1131C17): Critical Leader Development Factors in CTC Data

Sponsor: TRADOC (CAC-TNG) BG Frazar

Issue: What are the critical factors of leader development in support of the art of

battle command?

Approach: Review available ARI ACCES (Army Command and Control Evaluation

System) and BCTP information. Contract portion will review NTC and

JRTC archives. Focus will be on structural and procedural factors

affecting command, to include staff size, composition, functional allocation of duties, physical location of key personnel during engagements, clarity of commander's intent, timing and form of distribution of operations orders, etc. Identify critical components and any trends relating those components

to battle command effectiveness.

Utilization: Will support CTC trainers as coaches in the Art of Battle Command as

well as provide information to CAC-CD and CGSC as they re-examine

\$31K

command post design.

Est. Cost: 1131H04

FY93 FY94 FY95 TOTAL

1131C17

---- \$50K ---- \$50K

Start Date: 1st Ouarter FY94 End Date: 3rd Quarter FY94

\$31K

Status: New Start

(1131C16): Gender Integration of Basic Entry Training

Sponsor: TRADOC GEN Franks

Issue: What are trainees' and training cadre's attitudes about gender-integrated

basic entry training? Are there different performance outcomes for male and female trainees in gender-integrated and gender-pure (all male, all

female) squads?

Approach: Collect information on the attitudes and opinions of trainees and training

cadre about basic training in gender-pure and gender-integrated squads; describe training activities in the squads; and identify changes--if any--in attitudes towards training and the performances of females and males.

Utilization: The results will be used by TRADOC to determine Army policy on gender

integration of basic entry training.

Est. Cost: FY93 FY94 FY95 TOTAL

\$80K \$156K ---- \$236K

Start Date: 4th Otr FY93 End Date: 2nd Otr FY94

Status: Baseline survey data on trainee attitudes toward the Army and women in

the Army were administered during August. Field observations of training in squads were conducted during August and September. Post-test survey questionnaires for trainees and training cadre will be administered in September and October. Final briefings for Fort Jackson and CG,

TRADOC will be conducted in late November-early December.

(1131C18): Longitudinal Research on Officer Careers (LROC)

Sponsor: ODCSPER (DMPM) MG Vollrath

Issue: What are the major factors that influence the career commitment and

career intentions of junior officers as they progress toward key career

decision points?

Approach: Develop and administer a follow up survey to those officers who have

participated in prior LROC surveys. Perform longitudinal analyses of the factors affecting career commitment and intentions at various stages of

career development.

Utilization: DMPM will use to set/modify personnel policy.

Est. Cost: FY93 FY94 FY95 TOTAL

---- \$163K \$263K \$426K

Start Date: 1st Quarter FY94 End Date: 4th Quarter FY95

Status: New Start

(1131C19): Army Career Transition Survey (ACTS)

Sponsor:

ODCSPER (DMPM) MG Vollrath

Issue:

What are the major factors that influence soldiers' decisions to leave Army

service and how satisfied were they with their service?

Approach:

Develop, test, and administer a new survey instrument to better assess

sponsor information requirements. Develop and test new administration

procedures to increase survey response rate.

Utilization: DMPM will use results to set/modify personnel policies.

Est. Cost:

TOTAL **FY93 FY94** FY95

\$115K

\$90K

\$205K

Start Date:

1st Quarter FY94 End Date: 4th Quarter FY95

Status:

New Start

TASK 1231: JOB SPECIFIC SELECTION AND CLASSIFICATION

OBJECTIVE:To conduct studies which will provide recommendations leading to improvement of current procedures for enlisted selection and classification.

FUNDING: FY23 FY24 FY25 \$63K \$61K 0

Work Unit

(1231H01): Improved Classification with Existing Tests

Sponsor: ODCSPER (DMPM) MG Vollrath

Issue: Should there be a change in the current Mechanical Maintenance ASVAB

Aptitude Area composite used to determine eligibility of soldiers for that

job grouping?

Approach: One of the ASVAB Aptitude Area composites used in soldier classification

is known as the Mechanical Maintenance (MM) composite. This effort will

conduct analyses to determine if proposed changes to the Mechanical Maintenance composite will result in a better matching of soldiers to jobs.

Utilization: Improved classification of thousands of soldiers annually in critical

maintenance MOS, with substantial performance benefits to the Army.

Est. Cost: FY93 FY94 FY95 TOTAL

\$63K ---- \$63K

Start Date: 1st Quarter FY92 End Date: 4th Quarter FY93

Status: Completed. Analyses were completed showing that the proposed changes

were not advisable because of significant gender bias. A new effort has been initiated as part of the ARI advanced development (6.3A) program to examine systematic changes to the entire ASVAB Aptitude Area composite

system.

(1231H02): Improved NCO Promotion Procedures

Sponsor: ODCSPER (DMPM) MG Vollrath

Issue: What are the best measures to use in insuring that soldiers who are

promoted to the NCO level are those who will perform most effectively?

Approach: Existing personnel records reflecting first tour performance will be linked

with second tour performance data obtained from the Career Force project

to determine which first tour measures best predict second tour

performance.

Utilization: Results will be used to determine whether preliminary recommendations

concerning changes to the Promotion Point Worksheet based on earlier

analyses are supported or need to be modified.

Est. Cost: FY93 FY94 FY95 TOTAL

--- \$38K ---- \$38K

Start Date: 1st Ouarter FY94 End Date: 3rd Ouarter FY94

Status: New start

(1231H03): Self Development Test (SDT) Fairness Analyses

Sponsor: TRADOC (DCST) Mr. Seger

Issue: Is the Self Development Test (SDT) fair for all protected subgroups?

Approach: Each Self Development Test will be examined for its impact on blacks,

whites, males and females. Tests which show the greatest difference between blacks and whites will be examined for bias. Analyses will focus on those items which show the greatest difference for the relevant race and

gender subgroups.

Utilization: The fairness analyses will be used as a basis for determining whether the

tests meet appropriate standards of fairness to allow their use in the

Enlisted Personnel Management System.

Est. Cost: FY93 FY94 FY95 TOTAL
---- \$23K ---- \$23K

Start Date: 1st Quarter FY94 End Date: 1st Quarter FY94

Status: New start

TASK 1232: IMPLEMENTATION OF NEW PREDICTOR TESTS

OBJECTIVE: To resolve issues concerning the appropriate use of new temperament, psychomotor and spatial tests in the existing enlisted selection and classification system.

FUNDING:	FY93	FY94	FY95
	\$222K	0	0

Work Unit

(1232H01): Recommendations for Improved Testing

Sponsor: ODCSPER (DMPM) MG Vollrath

Issue: What new predictor tests will provide the greatest benefit to the Army if

added to the current selection and classification system?

Approach: The central component of the current selection and classification system is

the Armed Services Vocational Aptitude Battery (ASVAB). By mid-1993, recommendations for new tests to be included in the ASVAB, if any, will be needed. The Army has conducted extensive analyses showing the validity of its tests for selection and classification purposes. The objective

of this work unit is to conduct additional analyses and to formulate

recommendations for ASVAB changes.

Utilization: Will be instrumental in ensuring that the new selection and classification

system provides optimal performance benefits to the Army.

Est. Cost: FY93 FY94 FY95 TOTAL

\$129K ---- \$129K

Start Date: 1st Quarter FY92 End Date: 2nd Quarter FY93

Status: Completed. Analyses were completed and provided to the Joint Service

committees, which are considering adding a new spatial test to the ASVAB.

(1232C01): Fairness Analyses

Sponsor: ODCSPER (DMPM) MG Vollrath

Issue: What impact will the new predictor tests have on different racial and

gender subgroups?

Approach: The performance of selected racial and gender subgroups on composites

formed from currently operational tests and new tests proposed for operational use will be determined. Subgroup scores on performance measures will also be computed as a basis for comparison. Analyses will be conducted to address the question: how fair are the new tests to each

subgroup examined?

Utilization: Will ensure that issues of equity in application of test scores to different

groups have been thoroughly evaluated before recommendations regarding implementation of new selection and classification test composites are

generated.

Est. Cost: FY93 FY94 FY95 TOTAL

\$93K ---- \$93K

Start Date: 1st Quarter FY92 End Date: 4th Quarter FY93

Status: Completed. Fairness analyses were conducted and provided to the Joint

Service groups considering adding new tests to the ASVAB.

TASK 1233: REENLISTMENT AND PROMOTION ISSUES

OBJECTIVE: To address issues associated with the improvement of reenlistment and promotion procedures.

FUNDING:	FY93	FY94	FY95
	\$27K	0	0

Work Unit

(1233C1): Retaining High Performing Soldiers while Building Down

Sponsor: ODCSPER (DMPM) MG Vollrath

Issue: What personnel policies will ensure that high quality soldiers are retained

during the projected "build down" of Army forces?

Approach: Selection, classification, reenlistment and promotion policies must be

managed to insure that the Army does not lose its high quality soldiers during the projected build down. This effort will determine which current measures of first tour performance best predict second tour performance. Results will guide recommendations for use of these measures in making

reenlistment and promotion decisions.

Utilization: Will help ensure that the performance of the junior NCO corps is

maintained at a high level during the build down process.

Est. Cost: FY93 FY94 FY95 TOTAL

\$27K ---- \$27K

Start Date: 1st Quarter FY92 End Date: 3rd Quarter FY93

Status: Preliminary analyses have been completed and recommendations for

improved reenlistment and promotion decisions have been delivered to the sponsor (Enlisted Division, DMPM). A more complete database is now

available, and will serve as the basis for providing refined

recommendations. This work unit has been transitioned to an in-house

work unit (1231H2).

TASK 1331: PERSONNEL POLICY ANALYSIS

OBJECTIVE: To determine the effects of alternative compensation and personnel policies upon enlistment, attrition, retention, and separation decisions and costs in an era of downsizing. And to provide analytic tools for improving the match of enlisted applicants' aptitudes with the aptitude requirements of Army jobs.

FUNDING: FY93 FY94 FY95

\$468K \$730K \$110K

Work Unit Impact of Economic and Demographic Variables

(1331H01)

Sponser: ODCSPER (DMPM) MG Vollrath

Issue: How to recruit, manage, and retain sufficient numbers of high quality

soldiers at least cost.

Approach: To determine impacts of economic/demographic and policy variables on

enlistment/reenlistment rates, and to forecast future enlistments and race/ethnic composition of the force. Determine efficient allocation of resources (including permanent change of station (PCS) moves) to

maintain force quality.

Utilization: Results will assist DMPM in determining and defending the recruiting

budget, defending the race and ethnic composition of the force, and

defending the All Volunteer Force against the draft.

Est. Cost: FY93 FY94 FY95 TOTAL

\$215K ---- \$215K

Start Date: 1st Ouarter FY92 End Date: 4th Ouarter FY93

Status: Closed. Analyses of time-to-promotion in the enlisted force by racial

groups found no significant differences. Developed, delivered model for determining optimal allocation of recruiting resources for the Active Component and separately for the Reserve Component. Analyzed exiting soldiers' attitudes quarterly and reported to DCSPER-HR. Reported results of Survey of Total Army Military Personnel (STAMP) to DAPE and

USAREC. Army manpower research databases were maintained, updated, and used in research for CSA, ODCSPER, USMA, USAREC, and OSD.

(1331H02): Analysis of Enlistment, Reenlistment, Promotion, and Separation Policies

Sponsor: ODCSPER (DMPM) MG Vollrath

Issue: How to manage the downsizing in an efficient and equitable manner

Approach: To extend resource allocation models of active duty recruiting to reserve

recruiting; to examine the impact of downsizing upon officer quality; to enhance capability to examine the effects of various officer reenlistment and separation policies; to develop statistical tabulations for the use of selection boards in monitoring equity; to determine the feasibility and approach to collection of civilian earnings data of military separatees.

Utilization: Results will assist USAREC, the Army Secretariat, and DMPM in

planning, policy making and monitoring functions.

Est. cost: FY93 FY94 FY95 TOTAL

- \$96K \$110K \$206K

Start Date: 1st Quarter FY 94 End date: 4th Quarter FY95

Status: New Start

(1331C03) Utilization of FAARRS-SHARE Methodology

Sponsor: ODCSPER (DMPM) MG Vollrath

Issue: How to efficiently allocate recruiting resources to achieve accession targets.

Approach: To enhance the utilization of the Forecasting and Allocation of Army

Recruiting Resource Study - Sequential Hierarchical Allocation of

Resource Elements (FAARRS-SHARE) model in determining the efficient

allocation of recruiting resources.

Utilization: Enhancements to the FAARRS-SHARE model are required to expand the

model from its current operational use to support studies and analyses of possible policy changes. The enhanced model will provide the Army forecasts of contracts and accessions given recruiting resource levels, estimates of resources required to achieve given contract or accession targets, and the effects and interactions of management decisions with, for example, structure changes in the recruiting force. This model can also be used to evaluate the effects of suggested changes in a recruiting program or

in resource availabilities.

Est. Cost: FY93 FY94 FY95 TOTAL

\$134K ---- \$134K

Start Date: 1st Ouarter FY92 End Date: 4th Ouarter FY93

Status: A validation study and a sensitivity analysis of the methodologies

developed in FAARRS-SHARE were completed in 1993. Work also began

in 1993 to specify, test, and evaluate a Reserve FAARRS model.

(1331C14): Development of a Prototype Officer Personnel Inventory, Cost, and

Compensation (OPICC) Policy Analysis Model

Sponsor:

ODCSPER (DMPM) MG Vollrath

Issue:

In the present downsizing environment, there is an ongoing need for improved analysis capability in personnel and compensation policy and

officer management.

Approach:

The approach is to design, code, test, and implement a PC-based, automated policy analysis model. Model development will occur in stages. Preliminary retention equations have already been estimated. Core capabilities will be built for a prototype version which will be thoroughly exercised by users. Enhancements can be added in later stages.

The prototype version will be suitable for examining the effects of compensation and other personnel policy changes upon the inventory of Army officers, and for predicting these effects over a seven year planning horizon. With the production version the corresponding impact upon costs can also be estimated.

Est. Cost:

Utilization:

FY93 FY94 FY95 TOTAL \$15K \$143K \$158K

Start date: 4th Quarter FY93 End date: 3rd Quarter FY94

Status:

Work started August 1993.

(1331C15): Annual Updates of ARI Databases

Sponsor: ODCSPER (DMPM) MG Vollrath

Issue: Manpower databases configured to support research-based studies and

analysis need to be updated on a routine basis.

Approach: To build and update a database on Army College Fund usage combining

VA, Army, and actuarial records for FY93 and FY94. To update the Enlisted Panel Research Database (EPRDB); the Officer Longitudinal Research Data Base (OLRDB) and the Officer Administrative Data Base

(LOADB) for FY93.

Utilization: Assist in determining and defending recruiting budget; monitor ACF

program costs assessed by DoD actuary; estimate usage and costs of any enhancements to existing ACF program. Uses include analyses in support of TAS requests; determination of officer and enlisted characteristics and behavior; development of the Annualized Cost of Leaving (ACOL-2)

models.

Est. Cost: FY93 FY94 FY95 TOTAL

\$94K \$130K ---- \$224K

Start Date: 1st Quarter FY93 End Date: 4th Quarter FY94

Status: The ACF usage databases have been updated to be current through the

second quarter of FY93; this work was initiated in FY92 under Work Unit 2106C2, "Army College Fund Database". The OLRDB has been updated to be current through FY92. The OADB has been developed and is being brought up to date through FY92. The EPRDB has been updated through FY92. Data on 1992 participation in early separation programs have been matched into the EPRDB, OLRDB, and OADB records. During FY93, an important use of these databases was to support in-house analyses for the

Army Assessment Project for the Chief of Staff of the Army.

(1331C16): Impact of a Smaller, CONUS-Based Army Upon Promotion, Education,

and Professional Development Systems

Sponsor: ODCSPER (DMPM) MG Vollrath

1ssue: Viability and effectiveness of the existing promotion, education, and

professional development systems in the smaller Army of the 1990's.

Approach: To understand and describe the operational interrelationships among

promotion, education, and professional development systems. To utilize existing (or build new) policy analysis models suitable to address the issues. To analyze the implications of a smaller, CONUS based Army with longer tours for the operations of the enlisted promotion system and the enlisted education and officer professional development systems under alternative

permanent change of station (PCS) budget scenarios.

Est. Cost: FY93 FY94 FY95 TOTAL

---- \$152K ---- \$152K

Start date: 1st Quarter FY94 End date: 4th Quarter FY94

Status: New start

Work unit

(1331C17): Development of a PC-based prototype Enlisted Personnel Allocation

System (EPAS)

Sponsor:

DCSPER (DMPM) MG Vollrath

Issue:

The considerable efficiency gains and cost savings from the application of optimization techniques to the person - job match were shown in research sponsored by ARI from 1982-89. The Army's current approach to

classification should be improved.

Approach:

In moving towards implementation of EPAS, the first step is to incorporate the research into a PC-based model in order to demonstrate the benefits to decision-makers in a tangible way. The proposed PC-based model will utilize the latest developments in optimization techniques and operate on the "full-size" classification problem. Instead of just avoiding assigning the least qualified people to jobs, as the present system does, EPAS assigns the

best qualified people and distributes quality across MOS.

Utilization:

The prototype version will be evaluated and a go/no-go decision will be

made for a production system.

Est. cost:

FY93 FY94 FY95 TOTAL \$10K \$209K ---- **\$219K**

Start date:

4th Ouarter FY93 End date:

1st Quarter FY94

Status:

A feasibility study started 4th Quarter FY93. Planning was initiated in

August 1993.

TASK 1332: MARKETING AND ADVERTISING

OBJECTIVE: Resolution of active and reserve recruit marketing issues for sustaining a quality force. Immediate issues include labor market competition and the influence of downsizing on recruiting.

FUNDING:	FY93	FY94	FY95
	\$195K	\$368K	\$190K

Work Unit

(1332H01): Marketing and Recruiting Strategies

Sponsor: ODCSPER (USAREC) MG Wheeler

Issue: How to best reach the recruiting market to enlist sufficient numbers of

high quality soldiers (Active and Reserve).

Approach: Recruitment of women and minorities are currently important issues as are

parental influences and the recruitment of reserves and medical personnel.

Utilization: More effective marketing strategies and advertising programs.

Est. Cost: FY93 FY94 FY95 TOTAL

\$128K ---- \$128K

Start Date: 1st Ouarter FY92 End Date: 4th Ouarter FY93

Status: Completed. Analyses of the impact of the information shock of Desert

Storm on attrition from the Delayed Entry Program were reported. Analyses on the impact of ODS/S on the advice that separating and retaining soldiers would give to potential recruits were reported. Detailed analyses of gender and ethnic differences in STAMP were reported to DAPE-MP and -HR. Results of the Leadership Supplement to STAMP

were reported to -HR. Sources of information on young persons' enlistment propensity were developed, reported to USAREC.

(1332C01): The ARI Army Alumni Survey

Sponsor: ODCSPER (USAREC) MG Wheeler

Issue: To determine the best method to transition soldiers from military to

civilian life

Approach: The Army is facing the transition of large numbers of soldiers (including

combat veterans) of an all volunteer Army from military to civilian life. Monitoring this transition is vital to guide USAREC's future recruitment policy. The Alumni Survey is a longitudinal effort that will resurvey veterans who completed the New Recruit Survey at accessioning during the

past decade.

Utilization: The data gathered by this survey will result in more effective transition

programs that will create more good will for the Army and a greater

propensity for enlistment.

Est. Cost: FY93 FY94 FY95 TOTAL

\$5K \$194K \$190K \$389K

Start Date: 4th QTR FY93 End Date: 4th QTR FY95

Status: Contract effort was initiated in late 4th Quarter FY93.

(1332C03): Survey of Civilian Nurses

Sponsor: ODCSPER (USAREC) MG Wheeler

Issue: The Army has not achieved its objectives in recruiting nurses. The

shortfall is extremely serious for both the active and reserve components.

Approach: To administer a survey to employed civilian nurses and nursing students.

Utilization: Identify the least-cost incentives for recruiting nurses into the Army.

Est. Cost: FY93 FY94 FY95 TOTAL
\$62K \$174K ---- \$236K

Start Date: 2nd Quarter FY92 End Date: 3rd Quarter FY94

Status: This work unit was initiated in FY92. OMB approval of the survey

instrument was received 1st Quarter FY93. The contract effort started in

4th Quarter FY93.

Section B

Training Systems Research Division
FY94 Research-Based Studies and Analysis Program

TASK 2131: ARCHIVE: ANALYSES OF COMBAT TRAINING CENTER (CTC) PERFORMANCE

OBJECTIVE: To provide answers to critical issues for the Combined Arms Training Strategy (CATS) and unit readiness assessment.

FUNDING: FY93 FY94 FY95

\$623K \$862K ---

Work Unit

(2131H02): Profiles of Unit Performance Strengths and Weaknesses in the Maneuver

Battlefield Operating System (BOS) Across the Combat Training Centers

(CTC)

Sponsor: TRADOC (CAC-TNG) BG Frazar

Issue: What are current performance strengths and weaknesses in the maneuver

BOS demonstrated at the CTCs?

Approach: A series of analyses of existing data from the NTC, JRTC, and CMTC will

be performed to determine major areas of common unit maneuver performance strengths and weaknesses, with an emphasis on weaknesses,

for Active Components and Reserve Components.

Utilization: CAC-T will use this information for development of the Combined Arms

Training Strategy (CATS) for the Active and Reserve components.

Est. Cost: FY93 FY94 FY95 TOTAL

\$130K ---- \$384K

Start Date: 1st Quarter FY92 End Date: 4th Quarter FY93

Status: The Intelligence BOS was completed. It describes the analysis of a

database containing 266 battles or missions conducted at the National Training Center (NTC) from FY86 to FY90. The same methodology was used for analyzing the Maneuver BOS. This analysis was performed on a database containing 191 missions conducted at the NTC from Fy91 to FY93. The report on the analysis of the Maneuver BOS and a companion

briefing will be completed during October 1993 for the project sponsor.

(2131H04): Combat Training Center (CTC) Data Requirements and Quality

Sponsor: TRADOC (CAC-TNG) BG Frazar

Issue: What are the data available at the CTCs and how should quality control be

provided for them?

Approach: In order to ensure that all critical data are collected at the CTCs, the types

of data available from the CTCs will be identified, collected as close to the source as accurately and efficiently as possible, and transmitted effectively to the archive. Three major tasks will be involved: 1) assess the data availability and quality control of the present system, 2) determine requirements for future systems, and 3) perform a discrepancy analysis in

terms of requirements and the elements provided.

Utilization: The accuracy and thoroughness of the CTC data bases will be substantially

increased, providing users of the archive the best possible data to develop

Army Lessons Learned.

Est. Cost: FY93 FY94 FY95 TOTAL

\$257K ---- \$257K

Start Date: 1st Quarter FY93 End Date: 4th Quarter FY93

Status: The study was completed at the end of FY93 with the submission of an

ARI Draft Study Report, "NTC Data Requirements and Quality Control."

(2131H05): Tactical Commander Behavior and Unit Performance at the Combat

Training Centers

Sponsor: TRADOC (CAC-TNG) BG Frazar

Issue: What is the survivability of commanders during the execution of battles

and how is the practice of command succession implemented following

commander loss?

Approach: Army doctrine calls for commanders to position themselves forward so as

to be better able to "see the battlefield" and command and control their forces. Such positioning may, however, contribute to decreases in the survivability of commanders and to increases in the need for clear procedures regarding commander succession. Preliminary analysis of commander survivability performed in FY92 will be extended as part of Work Unit 2131H03. That data will be incorporated into this study. Additional analyses of commander survivability drawn from battles fought at the NTC will be conducted and the conditions underlying survivability will be identified. Data regarding the procedures developed by units for command succession at home station will be compared to the actual

practices followed during battles fought at CTCs.

Utilization: CALL will be provided with material for Lessons Learned on commander

survivability and command succession and practices.

Est. Cost: FY93 FY94 FY95 TOTAL

\$95K ---- \$95K

Start Date: 1st Ouarter FY93 End Date: 4th Duarter FY93

Status: The findings from this study lend support to the tactical doctrine that

directs commanders to position themselves forward, where they can most effectively command the battle. By dividing the battlefield into three zones - forward, middle and rear -- it was found that the commanders in each zone survived at the same probability level -- about 70%. Most company commanders were found to be following this doctrine, so most of their casualties occurred in the forward zone. (ARI Study Report 93-1,

"Company Commander Survivability.")

(2131C01): Strength and Weakness in Indirect Fire, Air Defense and Mobility/

Countermobility Battlefield Operating Systems (BOS) Across the CTCs

Sponsor: TRADOC (CAC-TNG) BG Frazar

Issue: What are current major unit performance strengths and weaknesses in

these BOSs as demonstrated at the CTCs?

Approach: A series of analyses of existing data from the NTC, JRTC, and CMTC will

be performed to determine major areas of common unit performance strengths and weakness, with an emphasis on weaknesses, for Active

Components and Reserve Components.

Utilization: CAC-TNG will use this information for development of the Combined

Arms Training Strategy CATS for the Active and Reserve components.

Est. Cost: FY93 FY94 FY95 TOTAL

\$413K \$403K ---- \$1130K

Start Date: 2nd Qtr FY92 End Date: 4th Qtr FY94

Status: During FY93, a Data Dictionary was compiled and standards for database

development were established. Two new databases were added, Oral Histories and National Guard. Training Observation Summaries were

developed for NTC Rotations 93-02 through 93-10.

(2131H03): Lessons Learned by Observer/Controllers at CTCs

Sponsor: TRADOC (CAC-TNG) BG Frazar

Issue: What Doctrine, Training, Organizational, Materiel, and Leadership

(DOTML) Lessons Learned can be obtained from the oral histories of

experience observer/controllers at the National Training Center?

Approach: A database of O/C oral histories has been collected in routine O/C

debriefings at the conclusion of their tour at the National Training Center. This data base should provide a rich source of DOTML information from

some of the most experienced trainers in the Army.

Utilization: CAC-T will incorporate the results of this study in their Army Lessons

Learned program.

Est. Cost: FY93 FY94 FY95 TOTAL

\$100K \$90K ---- \$460K

Start Date: 1st Otr FY92 End Date: 4th Otr FY94

Status: A preliminary database consisting of a sample of 25 interviews conducted

by O/C's with officers and noncommissioned officers at the National Training Center has been completed. The interviews have been coded and categorized and put into a database on a PC. The database permits analysis of comments in terms of: Battle Phase; Battlefield Operating

System; Echelon; and whether the comments address Doctrine.

Organization, Training, Materiel, Leadership, Soldiers (DOTMLS). While this study was originally planned for completion during the 2nd Quarter of FY 93, the time required to code and categorize the interviews has delayed

the analyses. Specific analyses for this study will focus on comments dealing with battalion operations during the planning, preparation and execution phases of battles. Command, Control and Communications issues will be addressed and comparisons made with existing doctrine.

During the fourth quarter FY93 and continuing through FY94, analyses will

be performed and a study report provided to the sponsor.

(2131H06): Combat Service Support (CSS) Training at the CTCs

Sponsor: TRADOC (CAC-TNG) BG Frazar

Is Combat Service Support (CSS) training conducted with adequate

battlefield fidelity at the Combat Training Centers (CTCs)?

Approach: A recently developed list of Critical Combat Functions (CCFs) for Combat

Service Support (CSS) tasks within the Forward Support Battalion (FSB) will be used to assess the fidelity of the simulation for CSS at the National Training Center (NTC). An analysis of the data collected will be made to determine training scenario deficiencies. More specifically, an analysis will be done on the degree to which battlefield realism (e.g., the extent of pressure to perform under difficult conditions) is a part of CSS scenarios. A report on these analyses will be submitted at the end of FY94. As appropriate, results will then be generated for the other CTCs and

provided in a second report at the end of FY95.

Utilization: Initially, Forward Support Battalions at the NTC, and later at other CTCs,

will improve battlefield performance in CSS tasks based upon improved

realism of the battlefield scenarios, and training feedback.

Est. Cost: FY93 FY94 FY95 TOTAL

---- \$94K ---- \$94K

Start Date: 1st Qtr FY94 End Date: 4th Qtr FY94

Status: New Start

(2131H07): Training Aids, Devices, Simulators, and Simulations (TADSS) Study

Sponsor: TRADOC (DCST) Mr. Seger

Issue: How often are currently fielded training devices used, and how effective do

the users report the devices to be in support of their training requirements

as reflected in training performance at the CTCs?

Approach: Given the mutual interests in training resourcing from ODCSOPS-Training,

TRADOC-ATSC and STRAC, and FORSCOM, an advisory committee will be formed with representatives from each command. Given the uniqueness of each post, including FORSCOM and TRADOC installations, a broad sample of posts will be covered to determine current local procedures used (if any) to account for Training Aids, Devices, Simulators and Simulations (TADSS) usage and local capabilities to support a standardized system. The basic procedure will consist of conducting structured interviews at each post with: (1) the training resourcing offices, e.g., TASC, Simulation Center, MILES Warehouse, etc.; and (2) the unit chain of command, i.e.,G-3, S-3 Bde, Bn and Co Cdrs, company training NCO's, Plt Leader and PSG. A proposed system for logging TADSS usage rates, user satisfaction and recommendations for improvements on new TADSS or

management procedures, will be provided along with a report of findings.

Utilization: U.S. Army Training Support Center will use the information obtained in

this study to satisfy the requirements of AR 350-38 for annual assessments to be conducted to determine if devices are fulfilling their stated

requirements; to determine requirements for modifications, additions, or

deletions from current training device inventory; and to determine

requirements for further studies or analyses.

Est. Cost: FY93 FY94 FY95 TOTAL

---- \$275K ---- \$275K

Start Date: 1st Qtr FY94 End Date: 4th Qtr FY94

Status: New Start

Task 222S: ANALYSES OF TRAINING CONDUCT AND TRAINING RESOURCE UTILIZATION

OBJECTIVE: Analyses leading to recommendations concerning the effective and proper use of training resources.

FUNDING: <u>FY93</u> <u>FY94</u> <u>FY95</u> <u>TOTAL</u>
---- \$108K ---- \$108K

Work Unit

(222SH01): Assessment of TRADOC School Staff Time for Instructional Delivery and

Support Activities in TRADOC Schools.

Sponsor: TRADOC (DCST) Training Career Program Office

Issue: Do the TRADOC schools have sufficient staff resources to effectively

conduct instruction, update current training programs, and design, develop

and validate new training programs/products?

Approach: Data will be gathered from a selected sample (approximately 12) of the

TRADOC schools. These data will be analyzed and compared with

existing standards within TRADOC and against existing practices in similar schools in the Air Force and Navy. Cost benefit data will be provided from which to compare alternative solutions to the requirements of training support. More specifically, analyses will bear on the issue of quality as well

as issues of implied and incurred costs.

Utilization: DCST will use this information for the development of policy relating to

the sufficiency and allocation of the constrained staffing resources within

TRADOC schools.

Est. Cost: FY93 FY94 FY95 TOTAL

---- \$109K ---- \$109K

Start Date: 1st Qtr FY94 End Date: 3rd Qtr FY94

Status: New Start

Section C
Policy and Procedures

POLICY AND PROCEDURES

Policy:

- o Each study or analysis request must be signed by a general officer (GO) or senior executive service (SES) member.
- Each study or analysis in the approved program will be documented by a memorandum for record (MFR), signed by both ARI and the requester, that details ARI's approach and the sponsoring agency's resource commitment and intended use of the study or analysis product.
- o Requests for studies and analyses that are approved by the DCSPER will be funded by appropriated funds in order of priority and will become the core program.
- o Requests falling outside the core program will be considered if the requester provides the necessary funds and contract personnel with required expertise are available.
- o The DCSPER/ADCSPER will approve all major changes to the core program.

Program Development Procedures: ARI develops this program annually for the budget fiscal year (and beyond if required).

- o Each February/March a memorandum that describes the program and the procedures for requesting a study or analysis is distributed to the ARSTAF, MACOMs and to OSD.
- o Requests for program support sent to the DCSPER must be signed by a GO or SES, and preferably the GO or SES who is directly involved in the policy, doctrine or decision that the study or analysis supports.
- o Each request is screened by the ODCSPER and sent to ARI for disposition, as depicted in Figure A-1.
- The ARI Command Group reviews each request to determine if it is a study or analysis issue within the area of ARI's competence and uses such additional factors as the importance of the issue and whether or not resources (dollars and personnel) are available to complete the effort in the time allotted.

- o Based upon this review, ARI submits the proposed budget fiscal year program to the DCSPER for approval. The DCSPER-approved program becomes the core program.
- Requests that fall outside the core program may be met if personnel with the required expertise are available and the requester can provide the necessary funds. In such cases, ARI Division Directors will negotiate directly with the requester.
- o Proposed studies and analyses that cannot be performed because of lack of resources are dropped from the final proposed program.
- O Unprogrammed, out-of-cycle studies or analyses may be requested during the fiscal year. However, such requests can be met only if the request is approved by the DCSPER/ADCSPER, ARI funds and personnel are available to accomplish the task within the allotted time, and either the DCSPER prioritizes the request above the funding line or the requester provides the necessary funds.

Section D

ARI Research-Based Study and Analysis Program FY93, FY94 and FY95 Funding

	ARI Research-Based Study and Analysis Program FY93, FY94 and FY95 Funding (\$000)	_		
Task No.	Task/Work Unit Title	FY93	FY94	FY95
	Manpower and Personnel Research Division			
1131	LEADERSHIP AND ORGANIZATIONAL ANALYSIS	100	155	353
	Effectiveness of Leader Development Practices	20		-
	Analysis of Alternative Command Post Structures	**	9£	***
	Critical Leader Development Factors in Support of the Art of Battle Command		81	•
	Gender-Integration of Basic Entry Training	80	156	1
	Longitudinal Research of Officer Careers (LROC)	•••	163	263
	Army Career Transition Survey (ACTS)		115	06
1231	JOB SPECIFIC SELECTION AND CLASSIFICATION	63	19	1
	Improved Classification with Existing Tests	63		••
	Improved NCO Promotion Procedures	•••	38	-
	Self Development Test (SDT) Fairness Analysis	•	23	**

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æ	222	129	9.5	27	27	468	215	I	134	15	94	!
ARI Research-Based Study and Analysis Program FY93, FY94 and FY95 Funding (\$000)	IMPLEMENTATION OF NEW PREDICTOR TESTS	Recommendations for Improved Testing	Fairness Analysis	REENLISTMENT AND PROMOTION ISSUES	Retaining High Performing Soldiers While Building Down	PERSONNEL POLICY ANALYSIS	Impact of Economic and Demographic Variables	Analysis on Enlistment, Reenlistment, Promotion, and Separation Policies	Utilization of FAARRS-SHARE Methodology	Development of a Prototype Officer Personnel Inventory, Coat and Compensation (OPICC) Policy Analysis Model	Annual Updates of ARI Databases	Impact of a Smaller, CONUS-Based Army Upon Promotion, Education and Professional Development Systems
	1232			1233		1331						

	•	190	i	190	1			1			1
	209	368	i	194	174		862	•	1	•	8
.	10	195	128	5	62		623	130	257	95	100
ARI Research-Based Study and Analysis Program FY93, FY94 and FY95 Funding (\$000)	Development of a PC-Based Enlisted Personnel Evaluation System (EPAS)	MARKETING AND ADVERTISING	Marketing and Recruiting Strategies	Army Alumni Survey	Survey of Civilian Nurses	Training Systems Research Division	ARCHIVE: ANALYSIS OF COMBAT TRAINING CENTER (CTC) PERFORMANCE	Profiles of Unit Performance Strengths and Weaknesses in the Maneuver Battlefields Battlefield Operating System (BOS) Across Combat Training Centers (CTC)	CTC Data Requirements and Quality	Tactical Commander Behavior and Unit Performance at the Combat Training Centers (CTC)	Lessons Learned by Observer/Controllers at CTCs
		1332					2131				

	ARI Research-Based Study and Analysis Program FY93, FY94 and FY95 Funding (\$000)			
	Strengths and Weaknesses in Indirect Fire, Air Defense and Mobility/Countermobility Battlefield Operating	413	403	1
	Combat Service Support (CSS) Training at the CTCs	1	94	•
	Training Aids, Devices, Simulators, and Simulations	1	275	1
222S	ANALYSES OF TRAINING CONDUCT AND TRAINING	1	109	
	Assessment of TRADOC School Staff Time for Instructional Delivery and Support Activities in TRADOC Schools	ţ	109	1
	SCHOOLS			